

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 2

**IN THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application.

1-8. (canceled)

9. (currently amended) A method for expanding a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence, said method comprising:

receiving a data element representing a row of a text character cell;

forming a horizontal expansion pattern corresponding to the text character based on character code and row number of the text character cell, ~~the row number being determined based on the horizontal frequency~~, the horizontal expansion pattern being set to a specified length, wherein the horizontal expansion pattern being contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row; and

appending the horizontal expansion pattern to the second sequence of data elements; and determining whether another data element should be read.

10. (previously presented) A method according to claim 9, wherin; the specified length is the same for all horizontal expansion patterns comprising the second sequence of data elements; and

the second sequence of data elements fills a flat panel display.

11. (canceled)

12. (currently amended) A method according to claim 9 51, wherein the lookup table resides in layer 3 of VGA video RAM.

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 3

13. (previously presented) A method according to claim 9, wherein:  
the data element comprises eight bits; and  
the horizontal expansion pattern comprises ten bits.

14. (currently amended) A method for expanding a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence, said method comprising:

receiving a plurality of bits representing a plurality of text character cell lines;  
~~determining the character cell row number based on the horizontal frequency;~~  
determining a first bit and a last bit for each data element within the first sequence;  
forming a horizontal expansion pattern corresponding to the text character, the horizontal expansion pattern being set to a specified length, wherein the horizontal expansion pattern being is contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row; and  
appending the horizontal expansion pattern to the second sequence of data elements; and  
~~determining whether another data element should be read.~~

15. (previously presented) A method according to claim 14, wherein said determining the first and last bits for each data element comprises:  
scanning the plurality of bits for repeating bit values at whole number multiples of eight or nine, the bit values corresponding to the background color;  
setting a cell line bit length to the whole number multiples;  
setting the first bit of a data element to the bit following the repeating bit value; and  
setting the last bit of a data element based on the first bit and the cell line bit length.

16. (canceled)

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 4

17. (previously presented) A method according to claim 14, wherein the lookup table resides in layer 3 of VGA video RAM.

18. (previously presented) A method according to claim 14, further comprising: determining whether a horizontal scan for a current row has completed; and loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan has completed.

19-20. (canceled)

21. (currently amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for expanding a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence, said method comprising:

reading a data element representing a row of a text character cell;  
forming a horizontal expansion pattern corresponding to the text character based on character code and row number of the text character cell, ~~the row number being determined based on the horizontal frequency~~, the horizontal expansion pattern being set to a specified length, ~~wherein the horizontal expansion pattern being contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row, and~~  
~~appending the horizontal expansion pattern to the second sequence of data elements; and~~  
~~determining whether another data element should be read.~~

22. (previously presented) A program storage device according to claim 21, wherein the specified length is the same for all horizontal expansion patterns comprising the second sequence of data elements; and  
the second sequence of data elements fills a flat panel display.

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 5

23. (canceled)

24. (currently amended) A program storage device according to claim 24 53, wherein the lookup table resides in layer 3 of VGA video RAM.

25. (previously presented) A program storage device according to claim 24, wherein: the data element comprises eight bits; and the horizontal expansion pattern comprises ten bits.

26. (currently amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for expanding a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence, said method comprising:

receiving a plurality of bits representing a plurality of text character cell lines;  
~~determining the character-cell row number based on the horizontal frequency;~~  
determining a first bit and a last bit for each data element within the first sequence;  
forming a horizontal expansion pattern corresponding to the text character, the horizontal expansion pattern being set to a specified length, wherein the horizontal expansion pattern being is contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row; and  
appending the horizontal expansion pattern to the second sequence of data elements; and  
determining whether another data element should be read.

27. (previously presented) A program storage device according to claim 26, wherein said determining the first and last bits for each data element comprises:

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 6

scanning the plurality of bits for repeating bit values at whole number multiples of eight or nine, the bit values corresponding to the background color; setting a cell line bit length to the whole number multiples; setting the first bit of a data element to the bit following the repeating bit value; and setting the last bit of a data element based on the first bit and the cell line bit length.

28. (canceled)

29. (previously presented) A program storage device according to claim 26, wherein the lookup table resides in layer 3 of VGA video RAM.

30. (currently amended) An apparatus for expanding a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence, said apparatus comprising:

means for receiving a data element representing a row of a text character cell;  
means for forming a horizontal expansion pattern corresponding to the text character based on character code and row number of the text character cell, ~~the row number being determined based on the horizontal frequency~~, the horizontal expansion pattern being set to a specified length, wherein the horizontal expansion pattern ~~being~~ is contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row; and

means for appending the horizontal expansion pattern to the second sequence of data elements; and

means for determining whether another data element should be read.

31. (previously presented) An apparatus according to claim 30, wherein;

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 7

the specified length is the same for all horizontal expansion patterns comprising the second sequence of data elements; and

the second sequence of data elements fills a flat panel display.

32. (canceled)

33. (previously presented) An apparatus according to claim 30, wherein the lookup table resides in layer 3 of VGA video RAM.

34. (previously presented) An apparatus according to claim 30, wherein:  
the data element comprises eight bits; and  
the horizontal expansion pattern comprises ten bits.

35. (currently amended) An apparatus for expansion of a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence, said apparatus comprising:

means for receiving a plurality of bits representing a plurality of text character cell lines;  
~~means for determining the character cell row number based on the horizontal frequency;~~  
means for determining a first bit and a last bit for each data element within the first sequence;

means for forming a horizontal expansion pattern corresponding to the text character, the horizontal expansion pattern being set to a specified length, wherein the horizontal expansion pattern being is contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row; and

means for appending the horizontal expansion pattern to the second sequence of data elements; and

~~means for determining whether another data element should be read.~~

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 8

36. (previously presented) An apparatus according to claim 35, wherein said means for determining the first and last bits for each data element comprises:

means for scanning the plurality of bits for repeating bit values at whole number multiples of eight or nine, the bit values corresponding to the background color;

means for setting a cell line bit length to the whole number multiples;

means for setting the first bit of a data element to the bit following the repeating bit value; and

means for setting the last bit of a data element based on the first bit and the cell line bit length.

37. (canceled)

38. (previously presented) An apparatus according to claim 35, wherein the lookup table resides in layer 3 of VGA video RAM.

39. (previously presented) An apparatus according to claim 35, further comprising:  
means for determining whether a horizontal scan for a current row has completed; and  
means for loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan has completed

40. (canceled)

41. (currently amended) A method according to claim 9 51, wherein the corresponding lookup table is loaded into the VGA RAM during horizontal blanking.

42. (previously presented) A method according to claim 9, further comprising:  
determining whether a horizontal scan for a current row has completed; and

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 9

loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan for the current row has completed.

43. (previously presented) A method according to claim 14, wherein the corresponding lookup table for the next row is loaded into the VGA RAM during horizontal blanking.

44. (currently amended) A program storage device according to claim 21-53, wherein the corresponding lookup table for the next row is loaded into the VGA RAM during horizontal blanking.

45. (previously presented) A program storage device according to claim 21, wherein said method further comprising:

determining whether a horizontal scan for a current row has completed; and

loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan for the current row has completed.

46. (previously presented) A program storage device according to claim 26, wherein the corresponding lookup table for the next row is loaded into the VGA RAM during horizontal blanking.

47. (previously presented) A program storage device according to claim 26, wherein said method further comprising:

determining whether a horizontal scan for a current row has completed; and

loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan for the current row has completed.

Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 10

48. (previously presented) An apparatus according to claim 30, wherein the corresponding lookup table for the next row is loaded into the VGA RAM during horizontal blanking.

49. (previously presented) An apparatus according to claim 30, further comprising: means for determining whether a horizontal scan for a current row has completed; and means for loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan for the current row has completed.

50. (previously presented) An apparatus according to claim 35, wherein the corresponding lookup table for the next row is loaded into the VGA RAM during horizontal blanking.

51. (new) The method of claim 9, wherein the horizontal expansion pattern is contained in lookup tables indexed by the character code and the row number.

52. (new) The method of claim 14, wherein a separate lookup table is provided for each row.

53. (new) The program storage device of claim 21, wherein the horizontal expansion pattern is contained in lookup tables indexed by the character code and the row number.

54. (new) The program storage device of claim 26, wherein a separate lookup table is provided for each row.

55. (new) The apparatus of claim 30, wherein a separate lookup table is provided for each row.

*Attorney Docket No.: P9191D  
Application No.: 09/888,128  
Page 11*

56. (new) The apparatus of claim 35, wherein a separate lookup table is provided for each row.